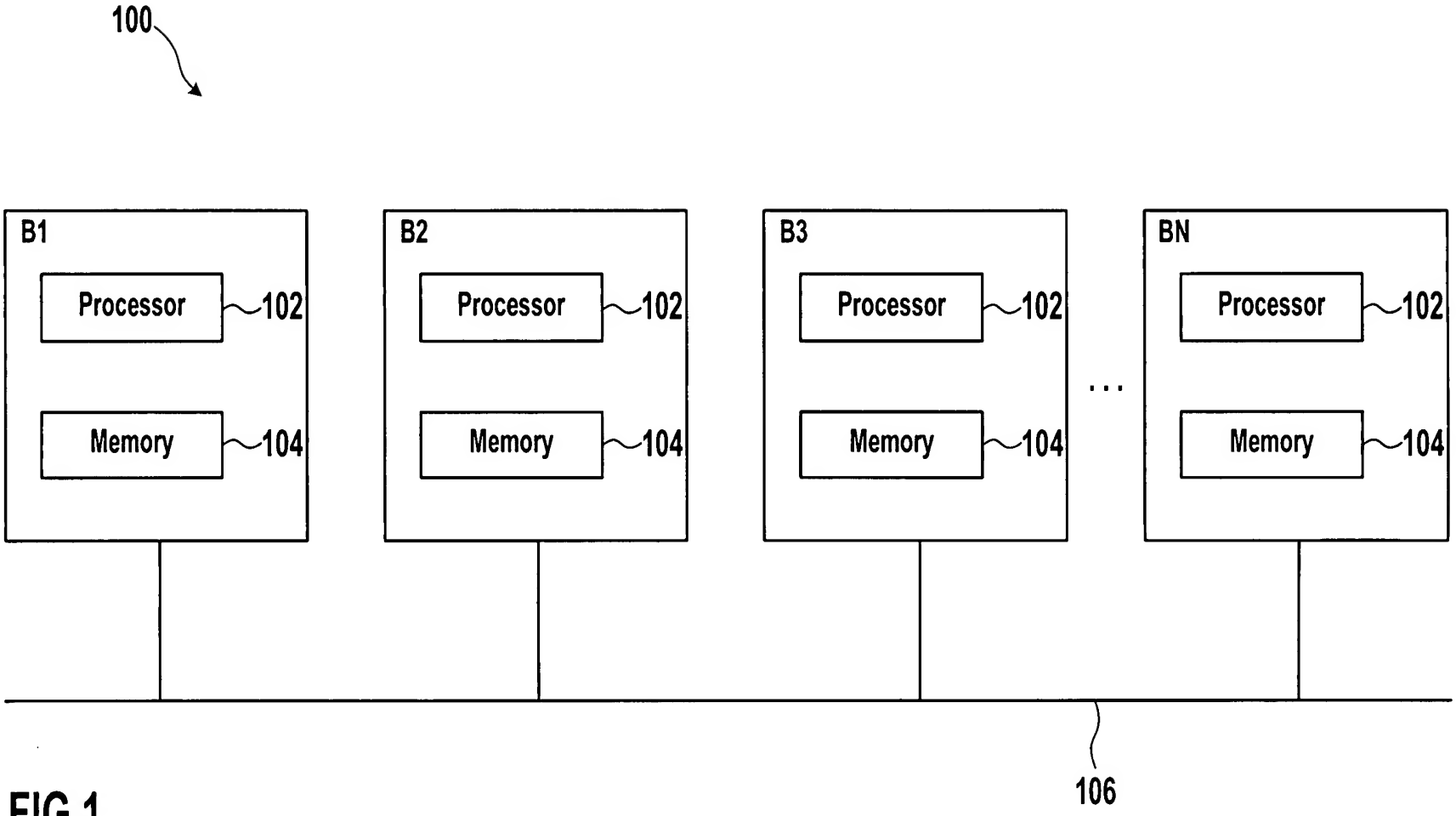

100
B1
Processor
102
Memory
104
B2
Processor
102
Memory
104
B3
Processor
102
Memory
104
...
BN
Processor
102
Memory
104
106

FIG.1

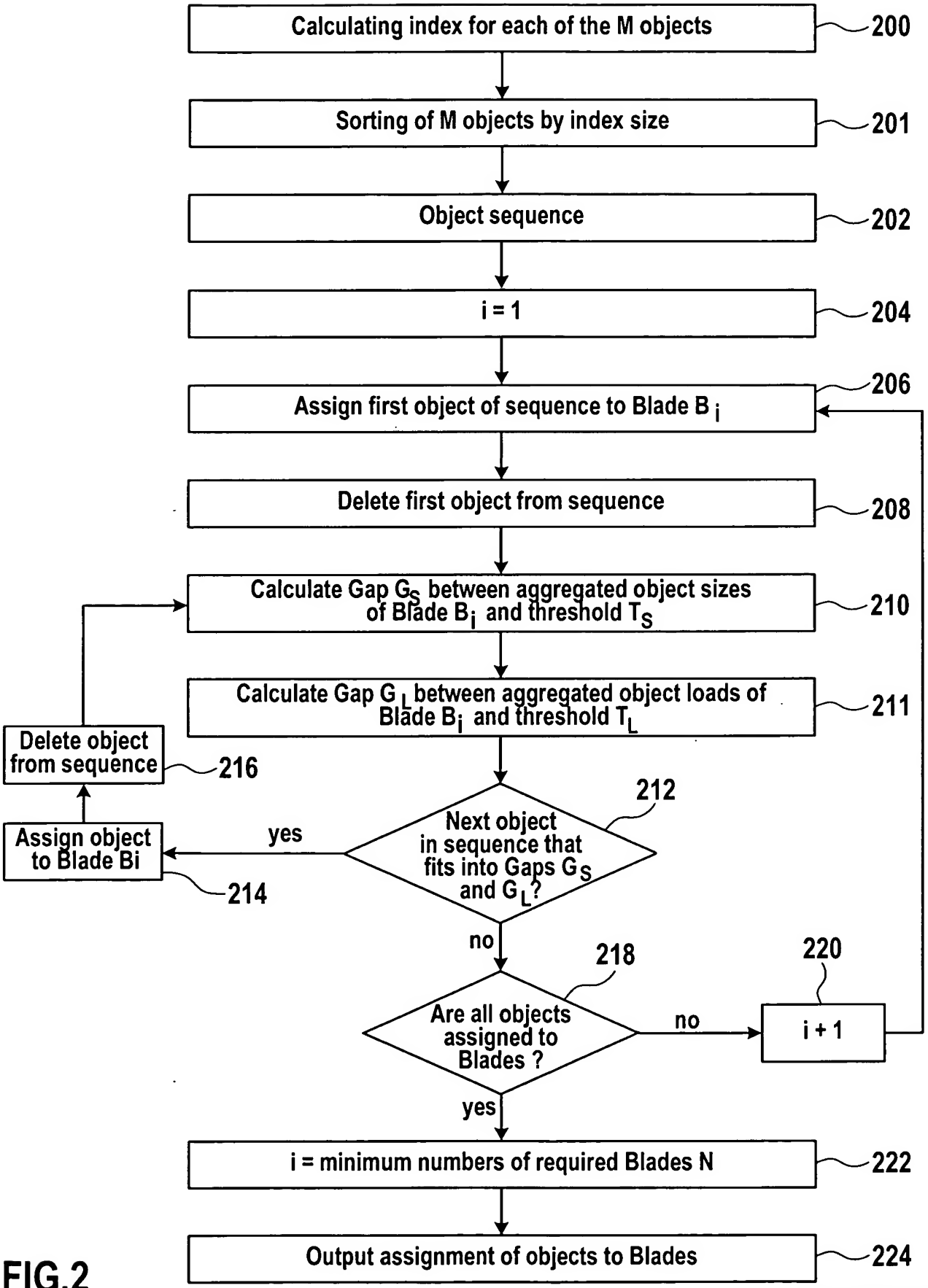
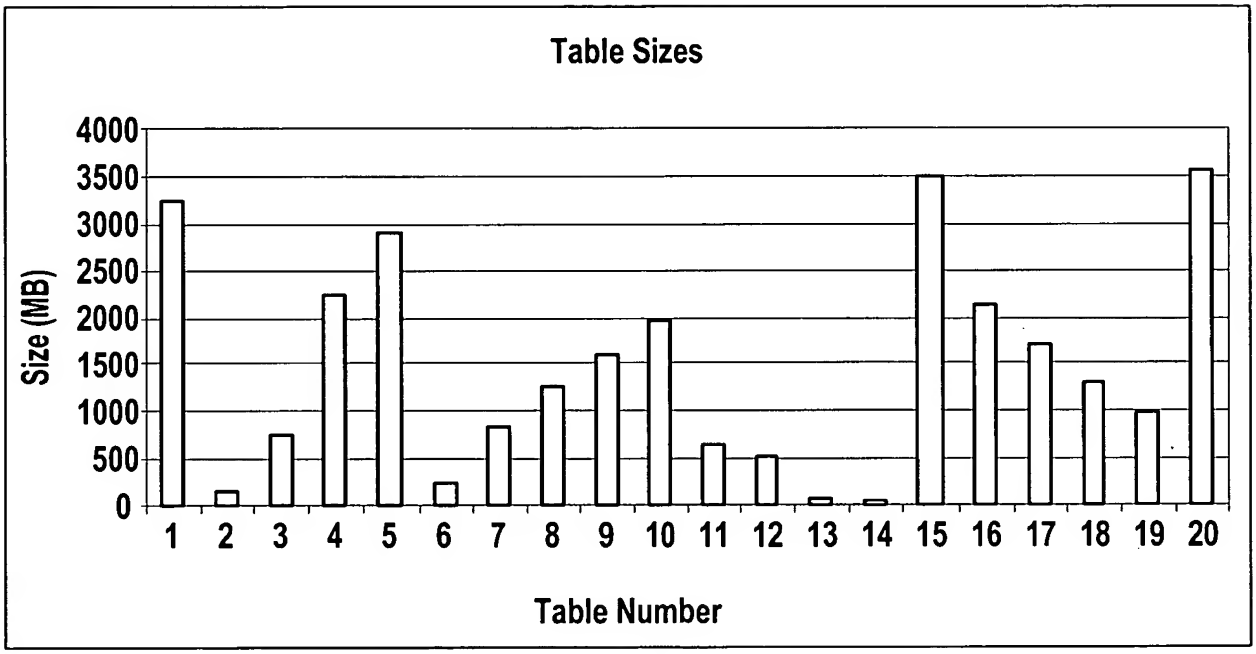
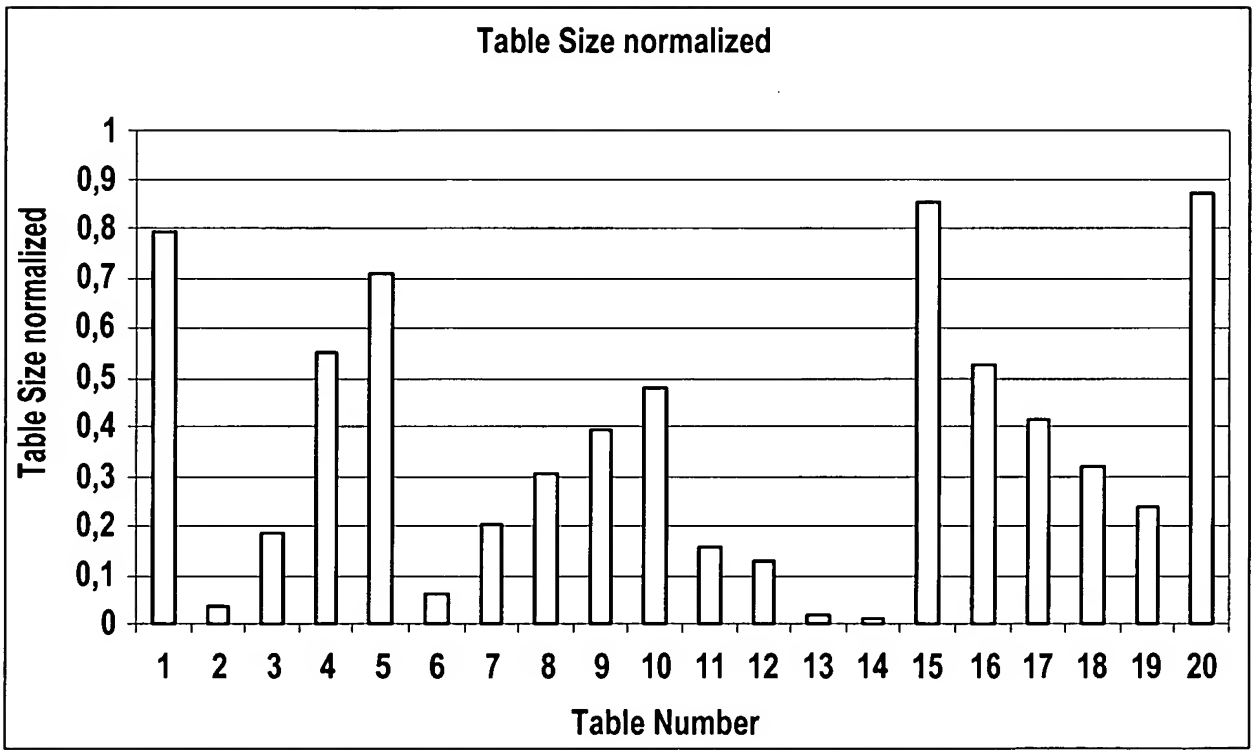

Calculating index for each of the M objects
200
Sorting of M objects by index size
201
Object sequence
202
i = 1
204
Assign first object of sequence to Blade B i
206
Delete first object from sequence
208
Calculate Gap G S between aggregated object sizes of Blade B i and threshold T S
210
Calculate Gap G L between aggregated object loads of Blade B i and threshold T L
211
Delete object from sequence
216
Assign object to Blade Bi
214
yes
Next object in sequence that fits into Gaps G S and G L?
212
no
Are all objects assigned to Blades ?
218
no
i + 1
220
yes
i = minimum numbers of required Blades N
222
Output assignment of objects to Blades
224

FIG.2



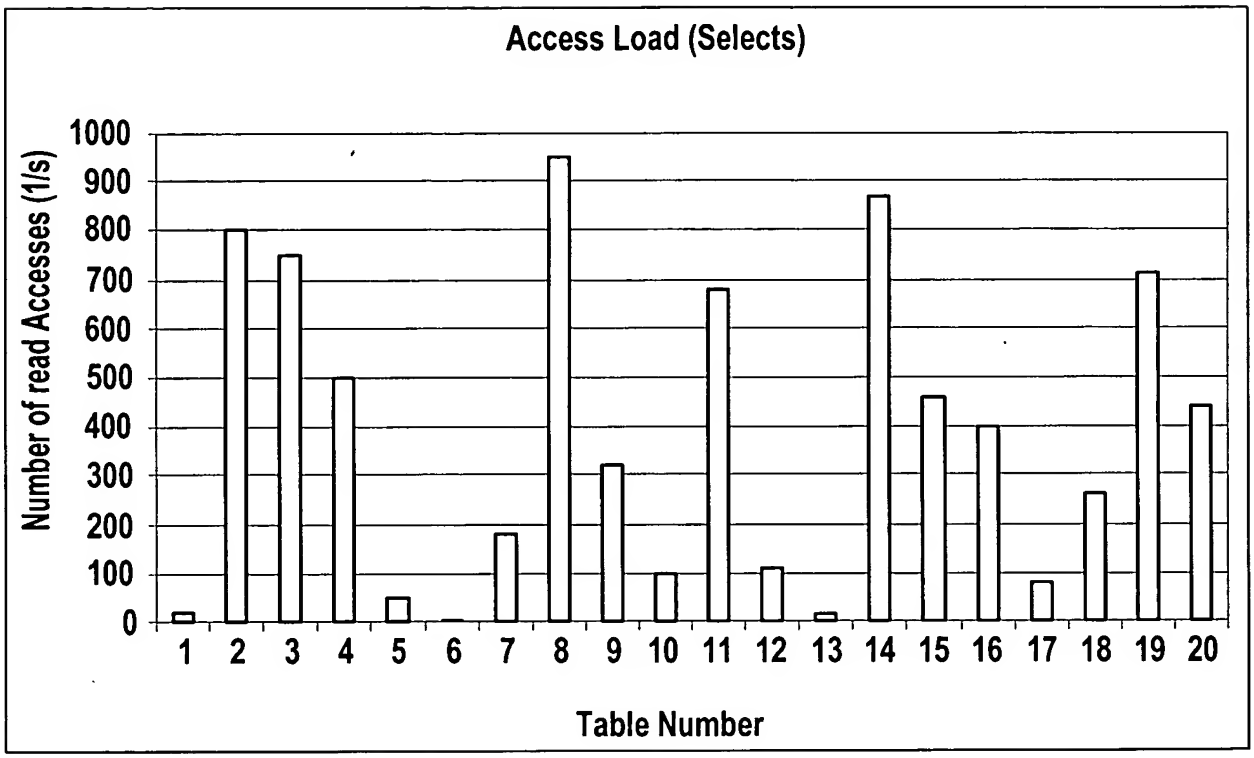
Size (MB)	3250	150	750	2250	2900	240	830	1250	1600	1970	650	520	80	50	3500	2150	1700	1320	970	3566

FIG.3



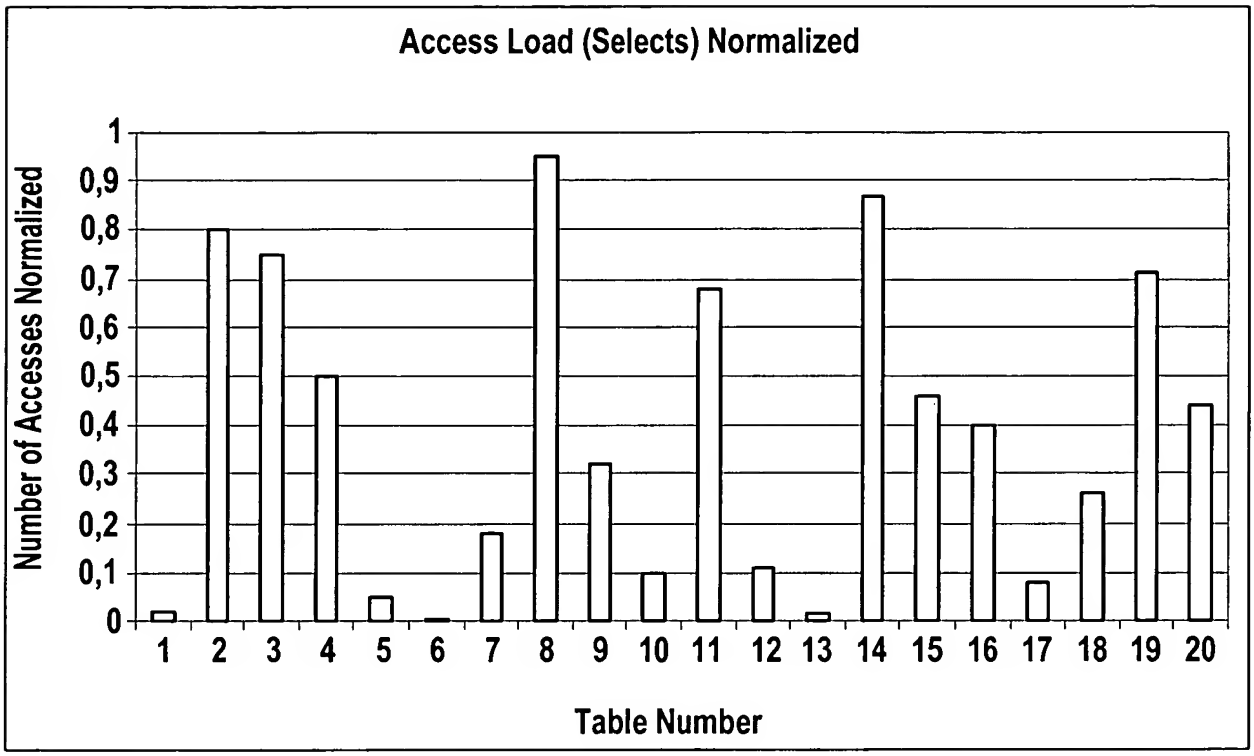
Size (norm)	0.7935	0.0366	0.1831	0.5493	0.7080	0.0586	0.2026	0.3052	0.3906	0.4810	0.1587	0.1270	0.0195	0.0122	0.8545	0.5249	0.4150	0.3223	0.2368	0.8706

FIG.4



Access Load (1/s)	20	800	750	500	50	5	180	950	320	100	680	110	15	870	460	400	80	260	710	440

FIG.5



Access Load (rel.)	0.020	0.800	0.750	0.500	0.050	0.005	0.180	0.950	0.320	0.100	0.680	0.110	0.015	0.870	0.460	0.400	0.080	0.260	0.710	0.440

FIG.6

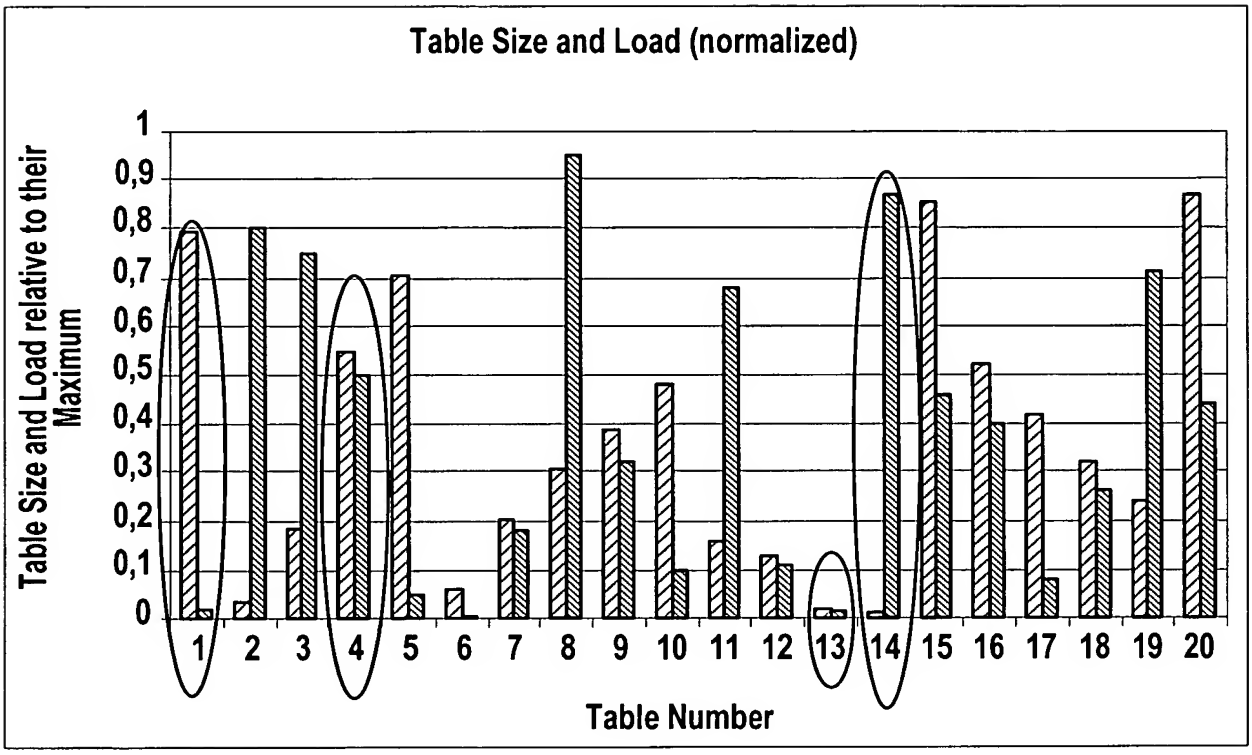


Table Size and Load (normalized)
Table Size and Load relative to their Maximum
1
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Table Number
Large table, low load — Table 1
Large table, high load — Table 4
Small table, low load — Table 13
Small table, high load — Table 14
Size
Load

FIG.7

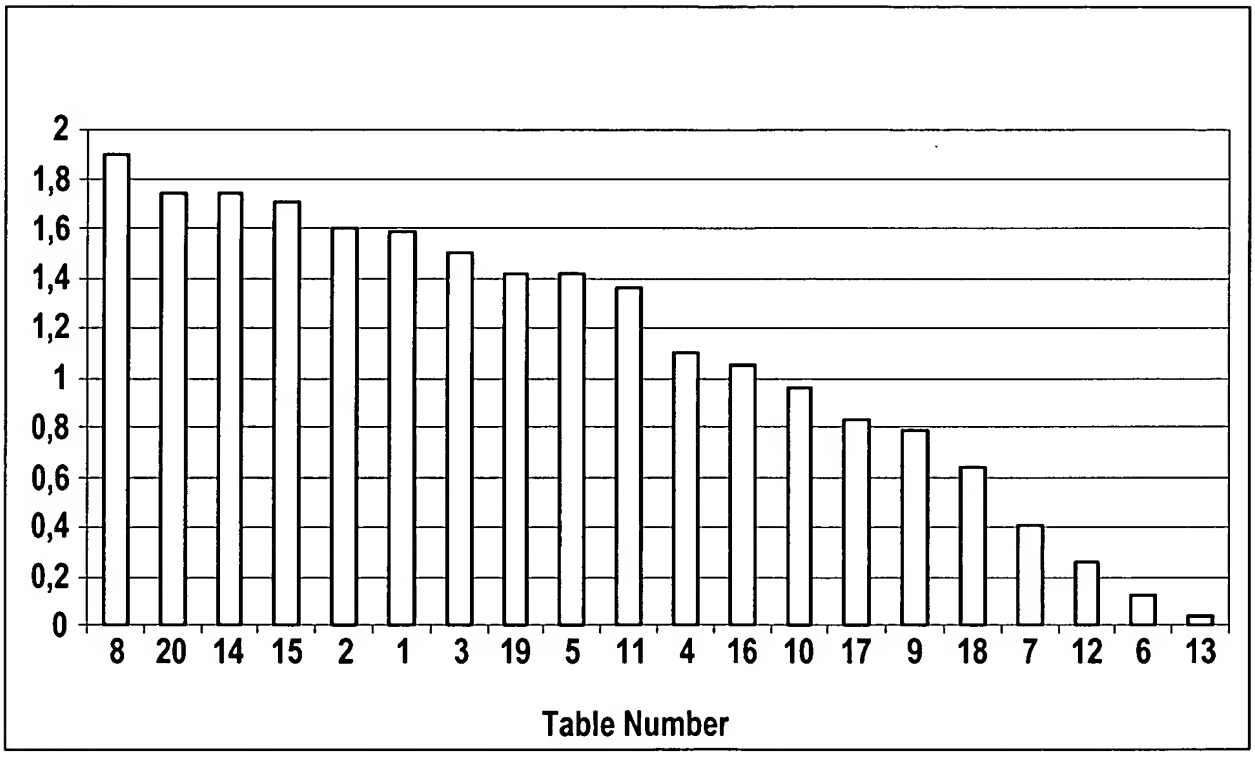

2
1,8
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
8 20 14 15 2 1 3 19 5 11 4 16 10 17 9 18 7 12 6 13
Table Number

FIG.8

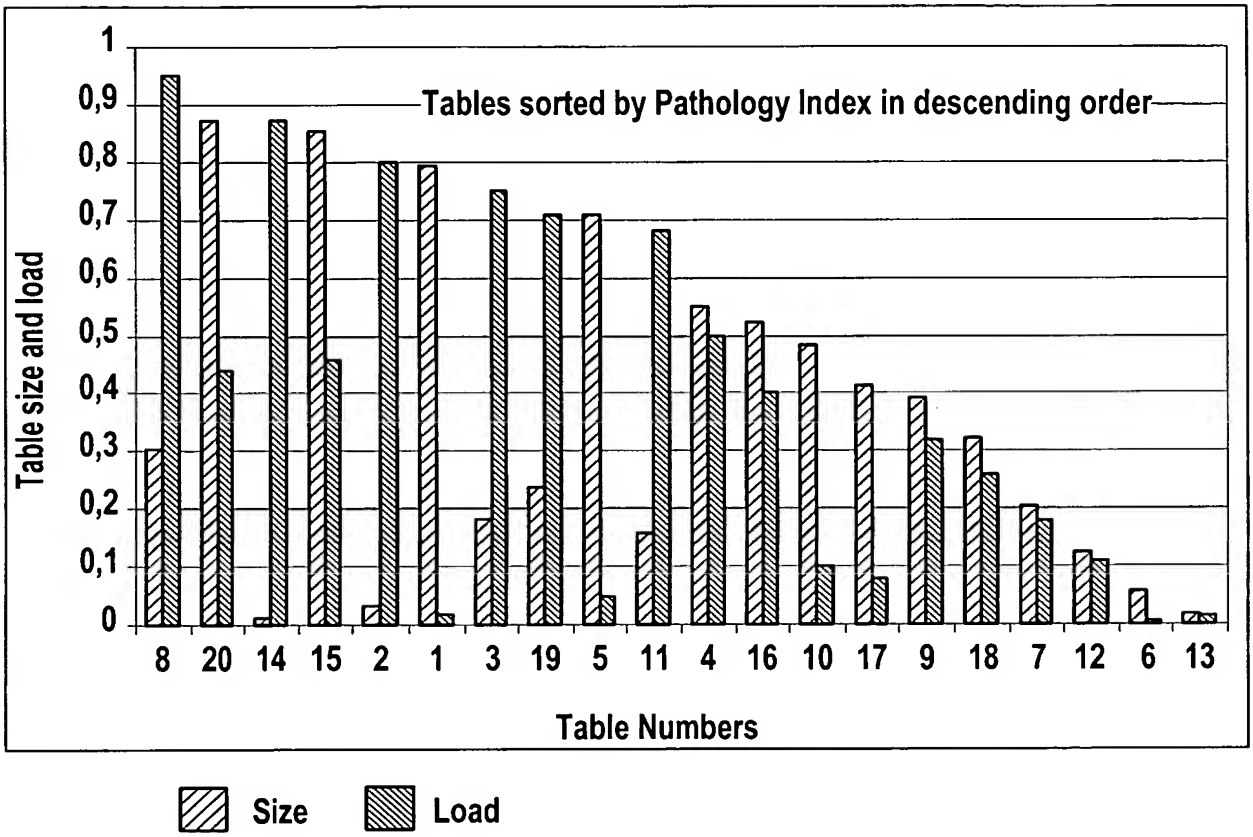

Tables sorted by Pathology Index in descending order
Table size and load
1
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
8 20 14 15 2 1 3 19 5 11 4 16 10 17 9 18 7 12 6 13
Table Numbers
Size
Load

FIG.9

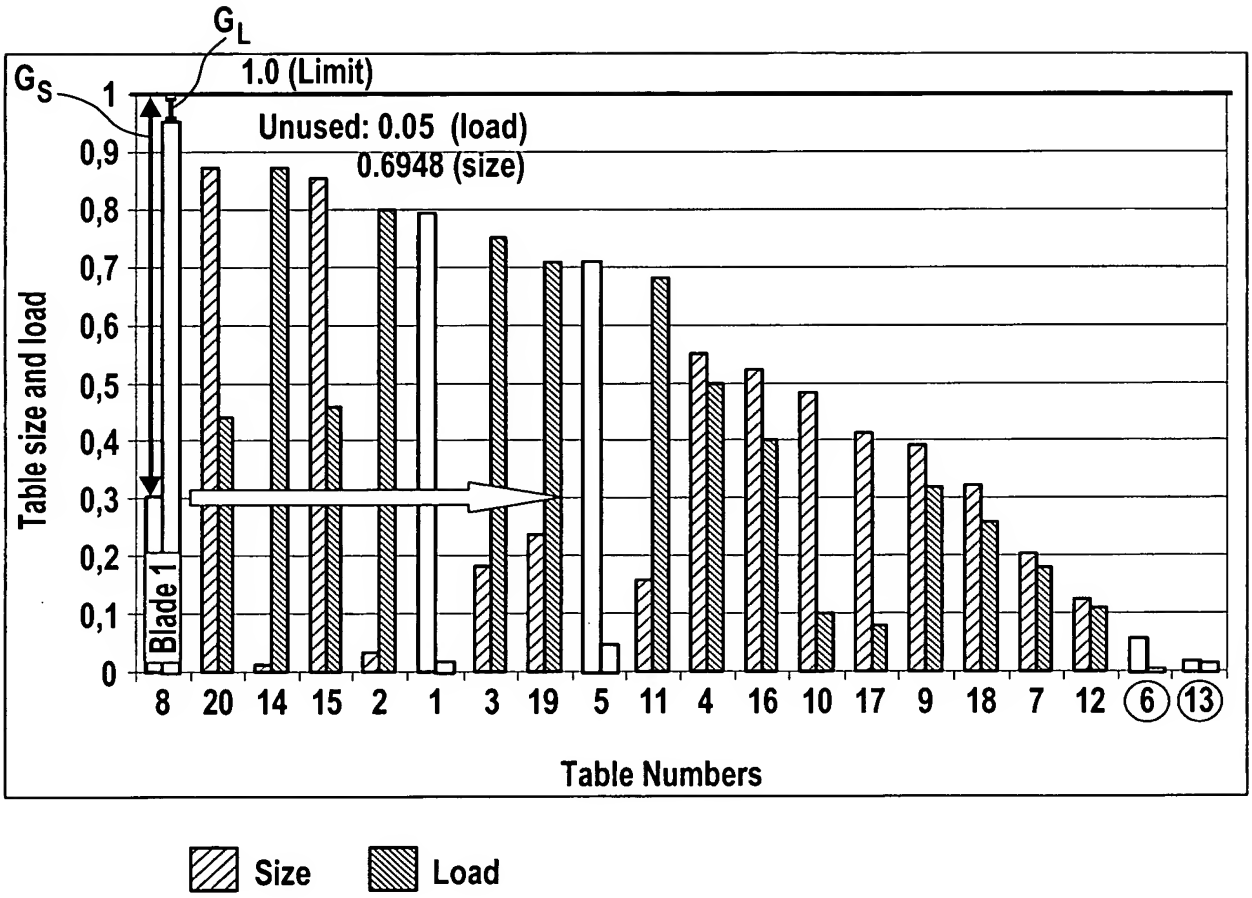

G_L
1.0 (Limit)
G_S
Unused: 0.05 (load)
0.6948 (size)
Table size and load
1
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
Blade 1
8 20 14 15 2 1 3 19 5 11 4 16 10 17 9 18 7 12 6 13
Table Numbers
Size
Load

FIG.10

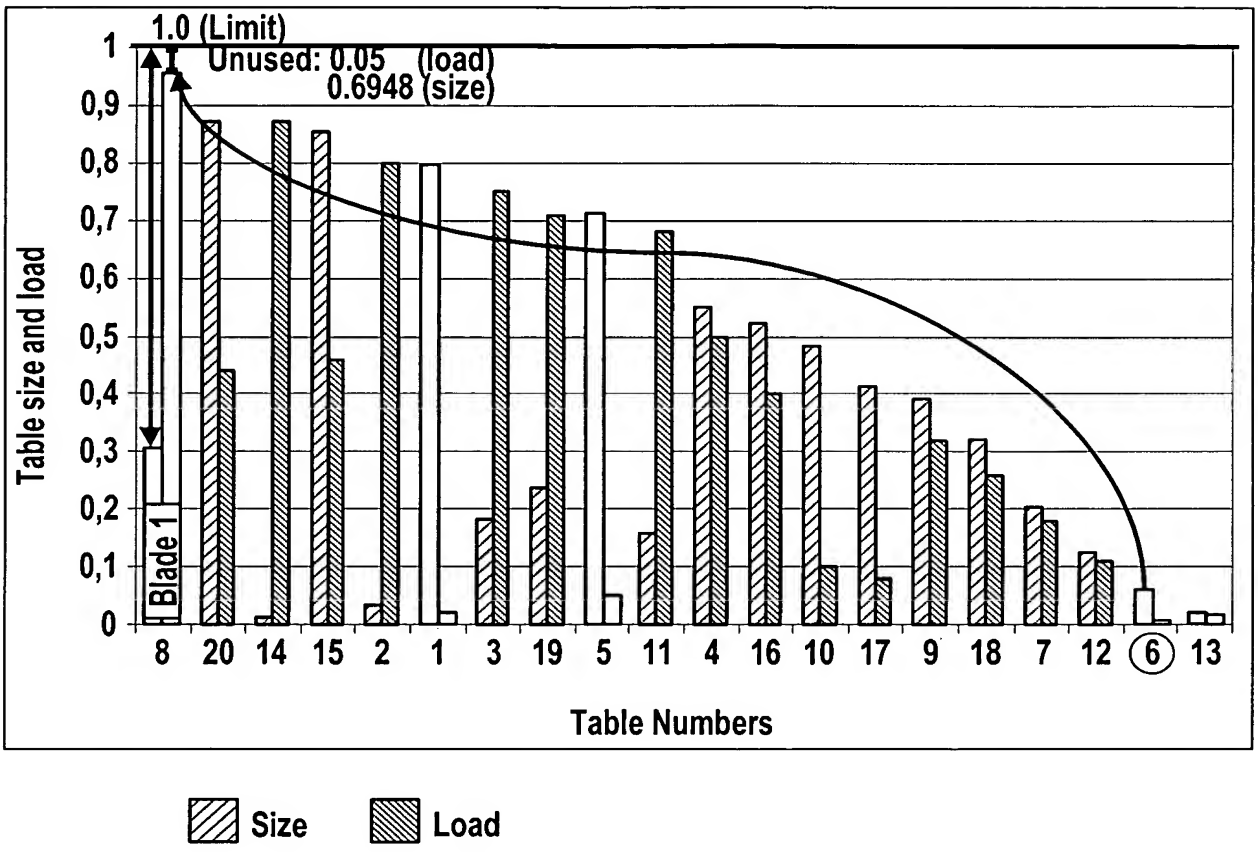

1.0 (Limit)
Unused: 0.05 (load)
0.6948 (size)
Blade 1
Table size and load
1
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
8 20 14 15 2 1 3 19 5 11 4 16 10 17 9 18 7 12 6 13
Table Numbers
Size
Load

FIG.11

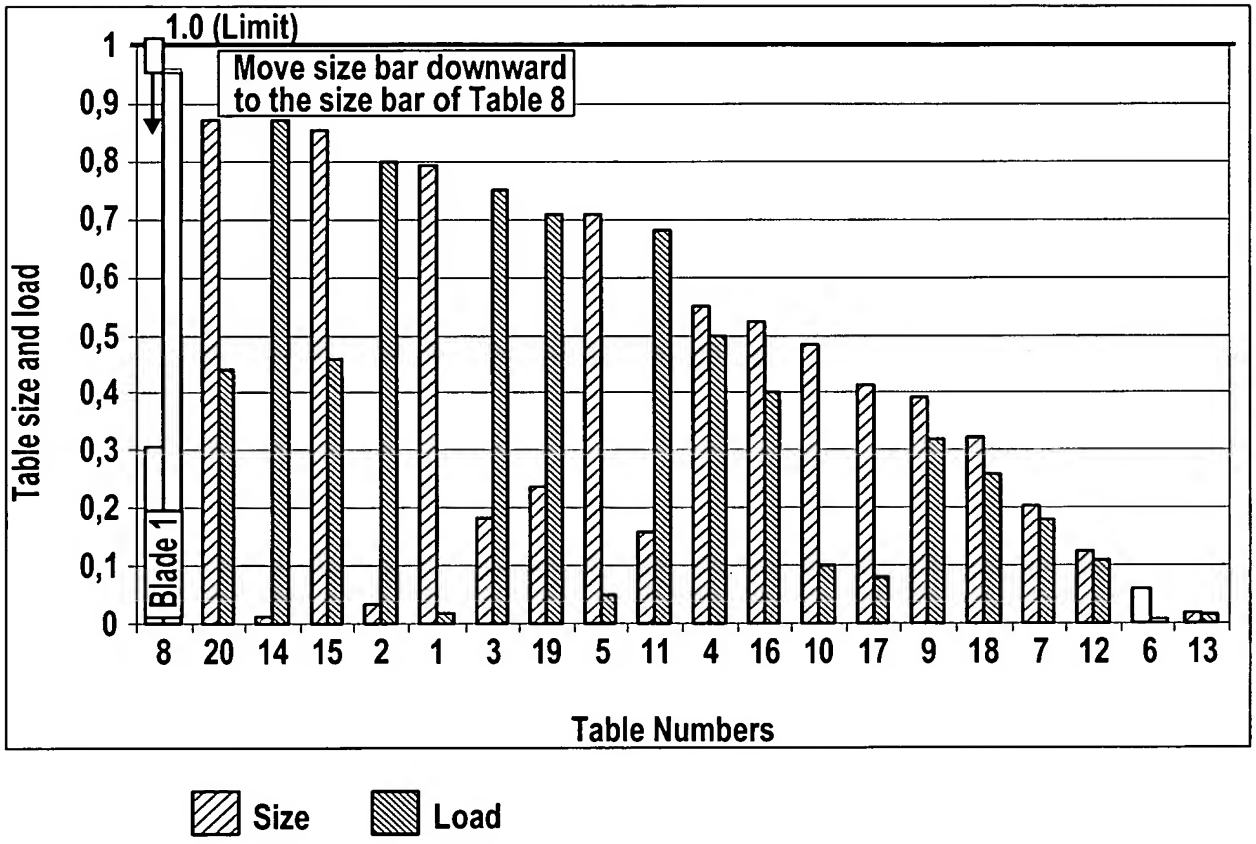

1.0 (Limit)
Move size bar downward
to the size bar of Table 8
Blade 1
Table size and load
1
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
8 20 14 15 2 1 3 19 5 11 4 16 10 17 9 18 7 12 6 13
Table Numbers
Size
Load

FIG.12

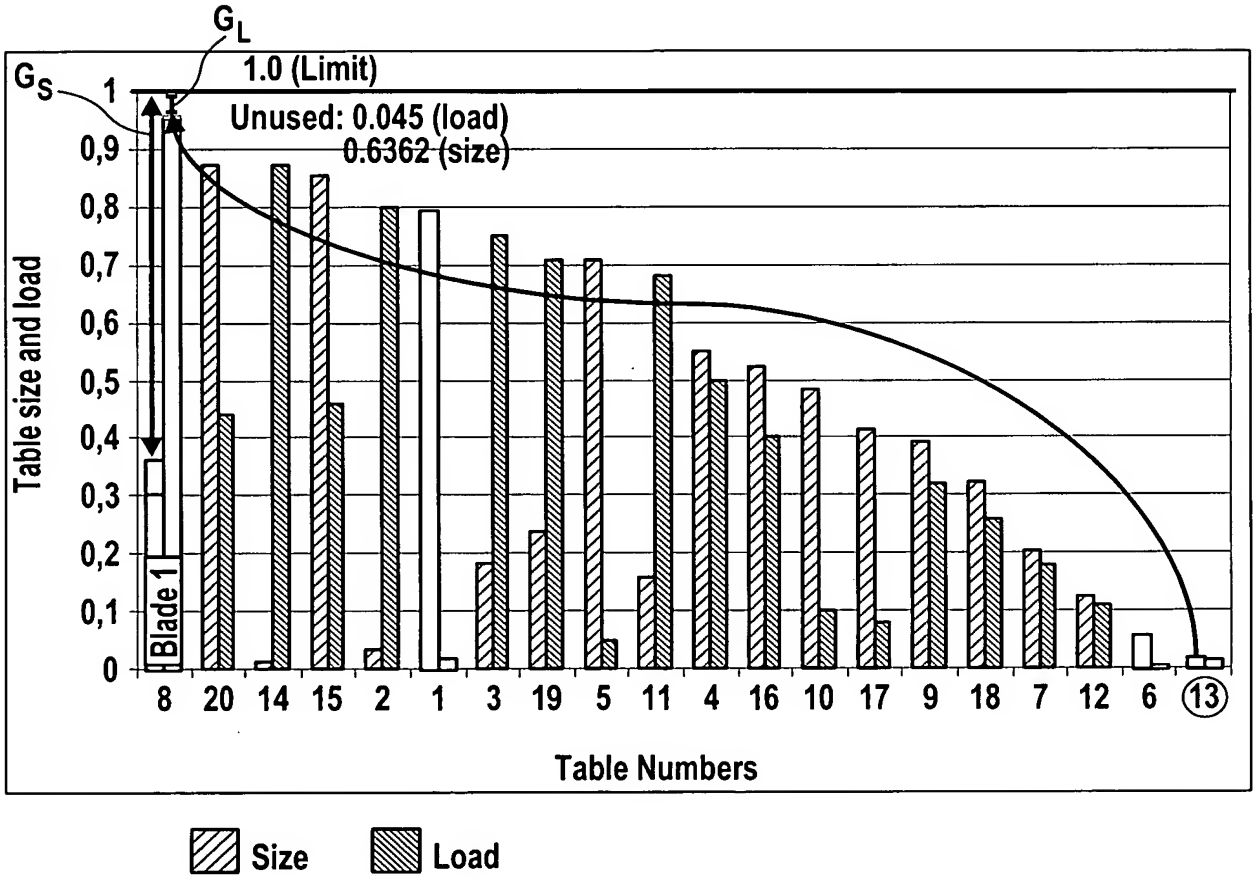

G_L
1.0 (Limit)
G_S
1
Unused: 0.045 (load)
0.6362 (size)
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
Table size and load
Blade 1
8 20 14 15 2 1 3 19 5 11 4 16 10 17 9 18 7 12 6 13
Table Numbers
Size
Load

FIG.13

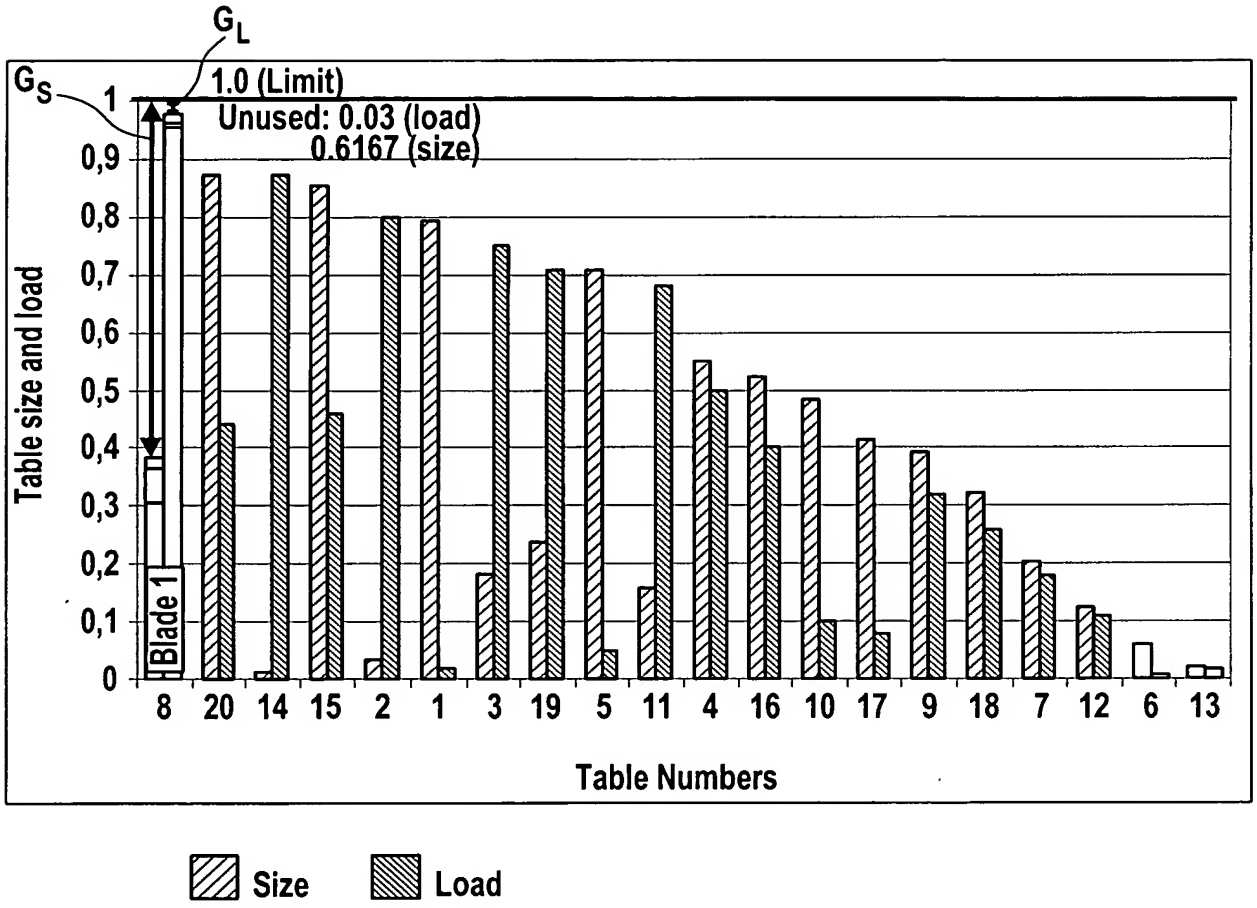

G_L
G_S
1.0 (Limit)
Unused: 0.03 (load)
0.6167 (size)
Blade 1
Table size and load
1
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
8 20 14 15 2 1 3 19 5 11 4 16 10 17 9 18 7 12 6 13
Table Numbers
Size
Load

FIG.14

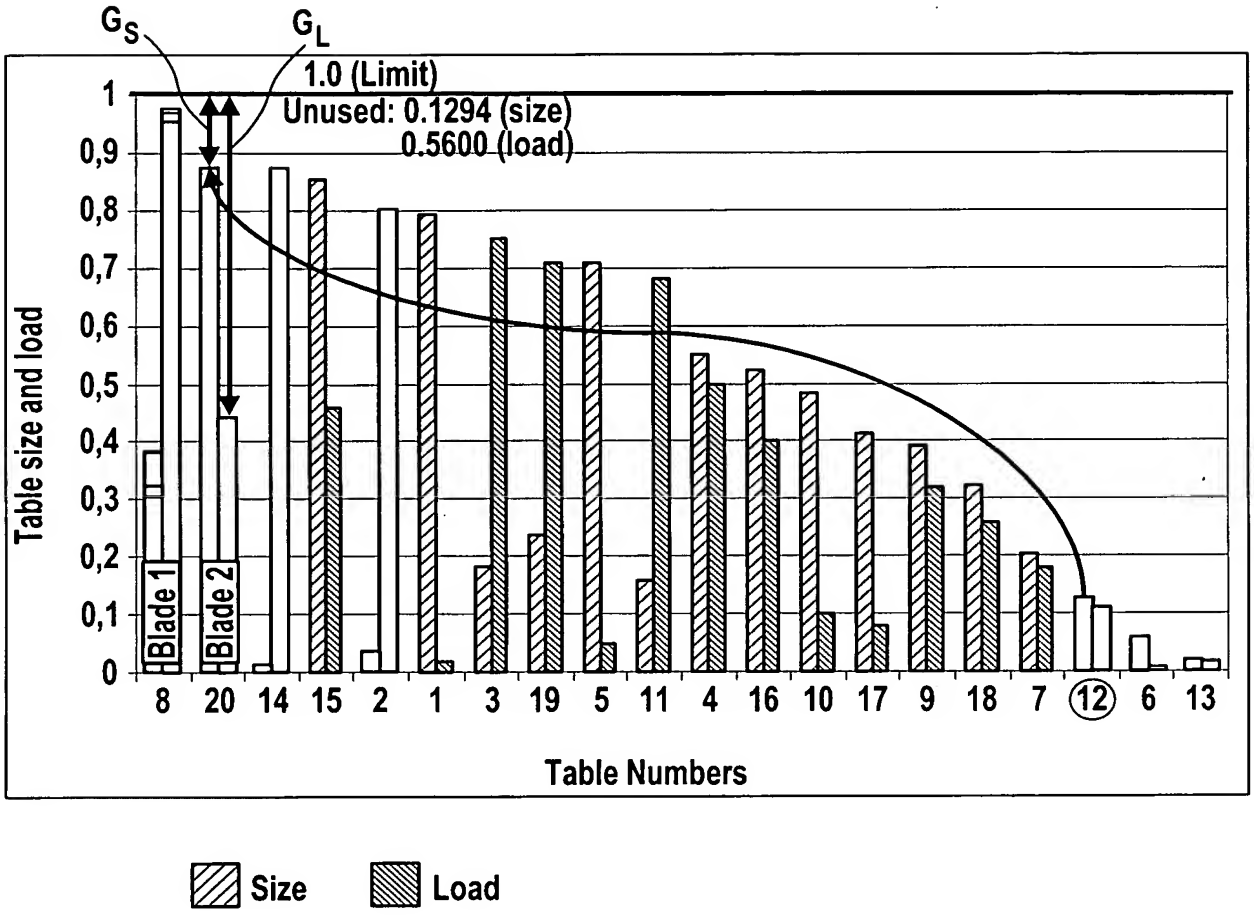

G_S
G_L
1.0 (Limit)
Unused: 0.1294 (size)
0.5600 (load)
Table size and load
1
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
Blade 1
Blade 2
8 20 14 15 2 1 3 19 5 11 4 16 10 17 9 18 7 12 6 13
Table Numbers
Size
Load

FIG.15

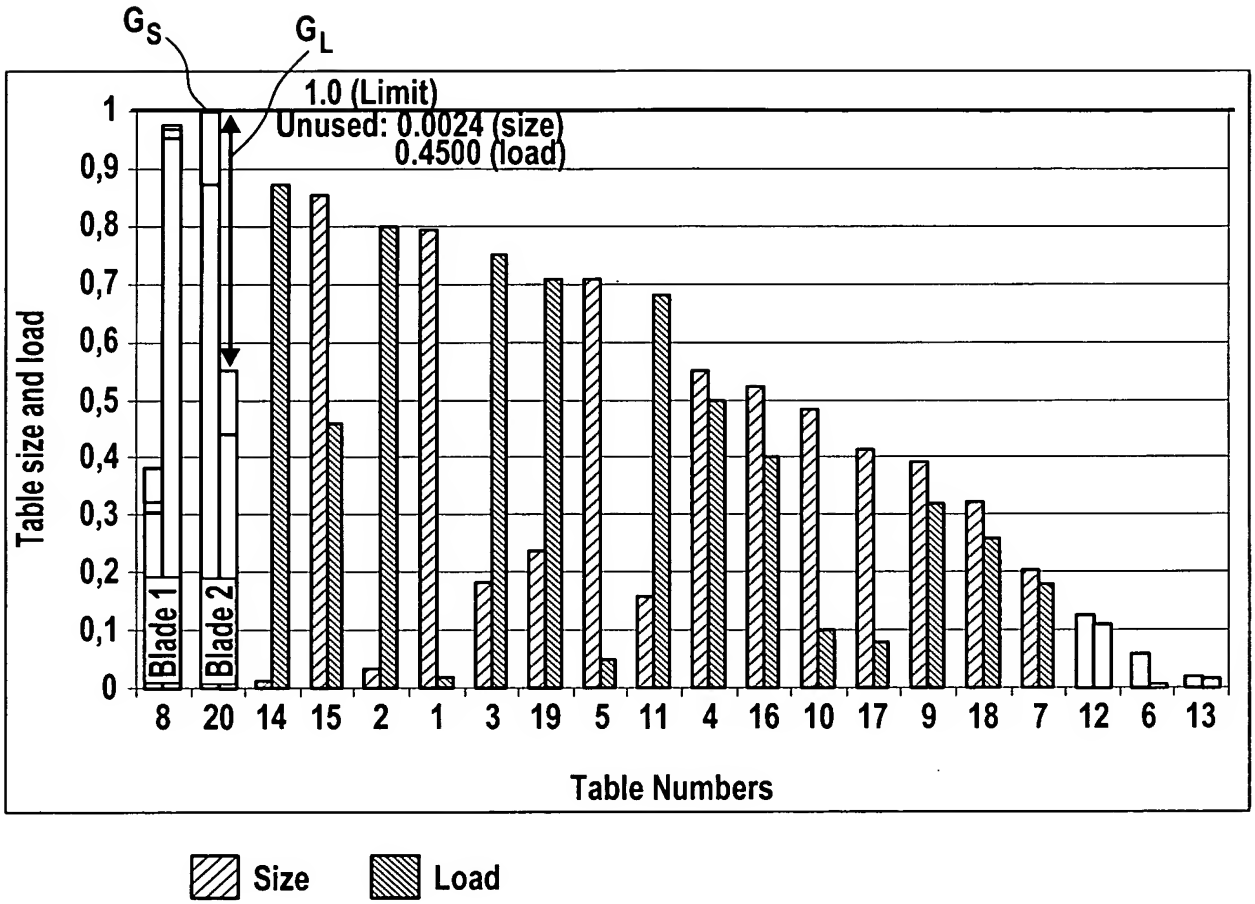
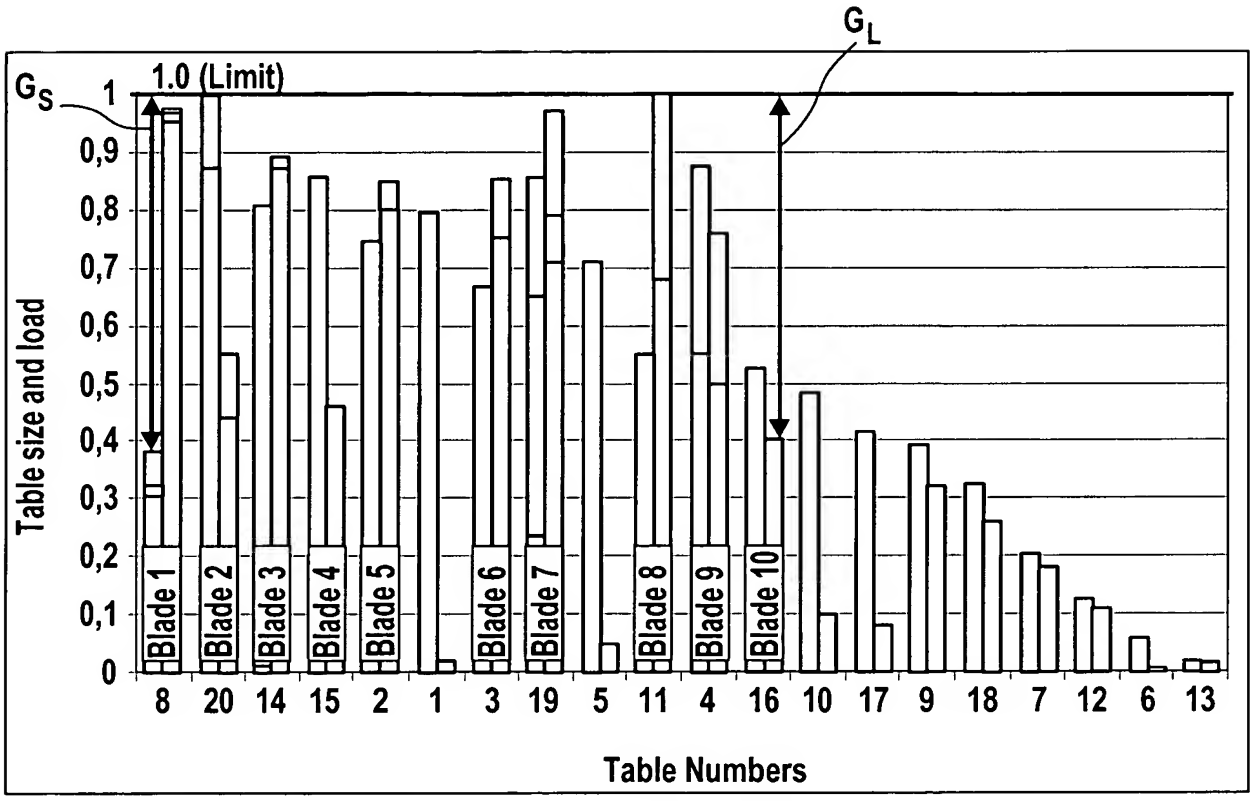

G_S
G_L
1.0 (Limit)
Unused: 0.0024 (size)
0.4500 (load)
Table size and load
1
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
Blade 1
Blade 2
8 20 14 15 2 1 3 19 5 11 4 16 10 17 9 18 7 12 6 13
Table Numbers
Size
Load

FIG.16



Blade 1: Tables 8, 6, 13
Blade 2: Tables 20, 12
Blade 3: Tables 14, 1
Blade 4: Table 15
Blade 5: Tables 2, 5
Blade 6: Tables 3, 10
Blade 7: Tables 19, 17, 7
Blade 8: Tables 11, 9
Blade 9: Tables 4, 18
Blade 10: Table 16

FIG.17

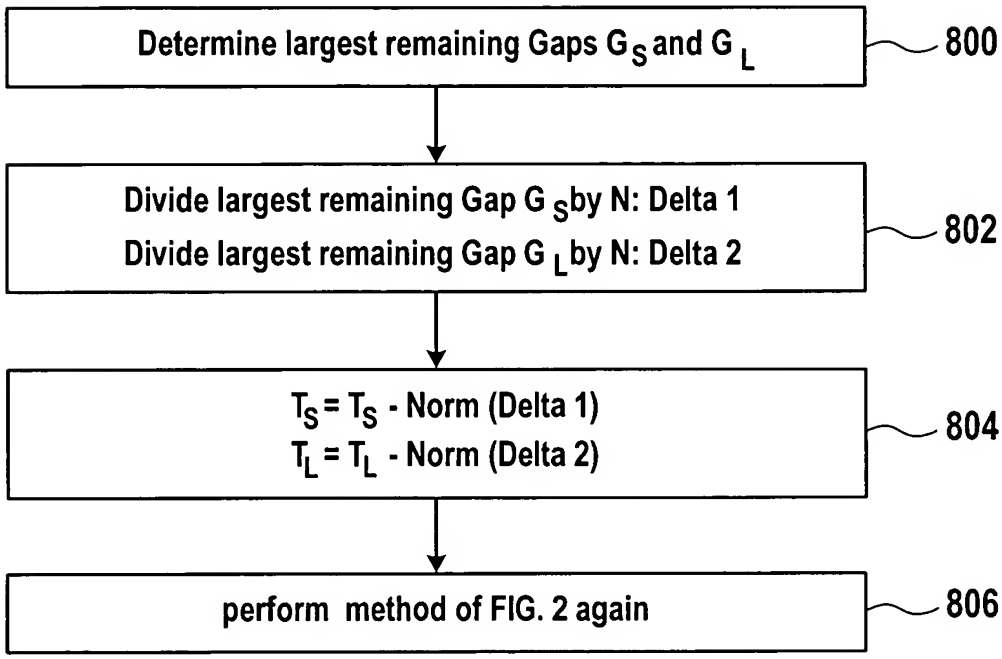

Determine largest remaining Gaps G_S and G_L
800
Divide largest remaining Gap G_S by N: Delta 1
Divide largest remaining Gap G_L by N: Delta 2
802
$T_S = T_S$ - Norm (Delta 1)
$T_L = T_L$ - Norm (Delta 2)
804
perform method of FIG. 2 again
806

FIG.18

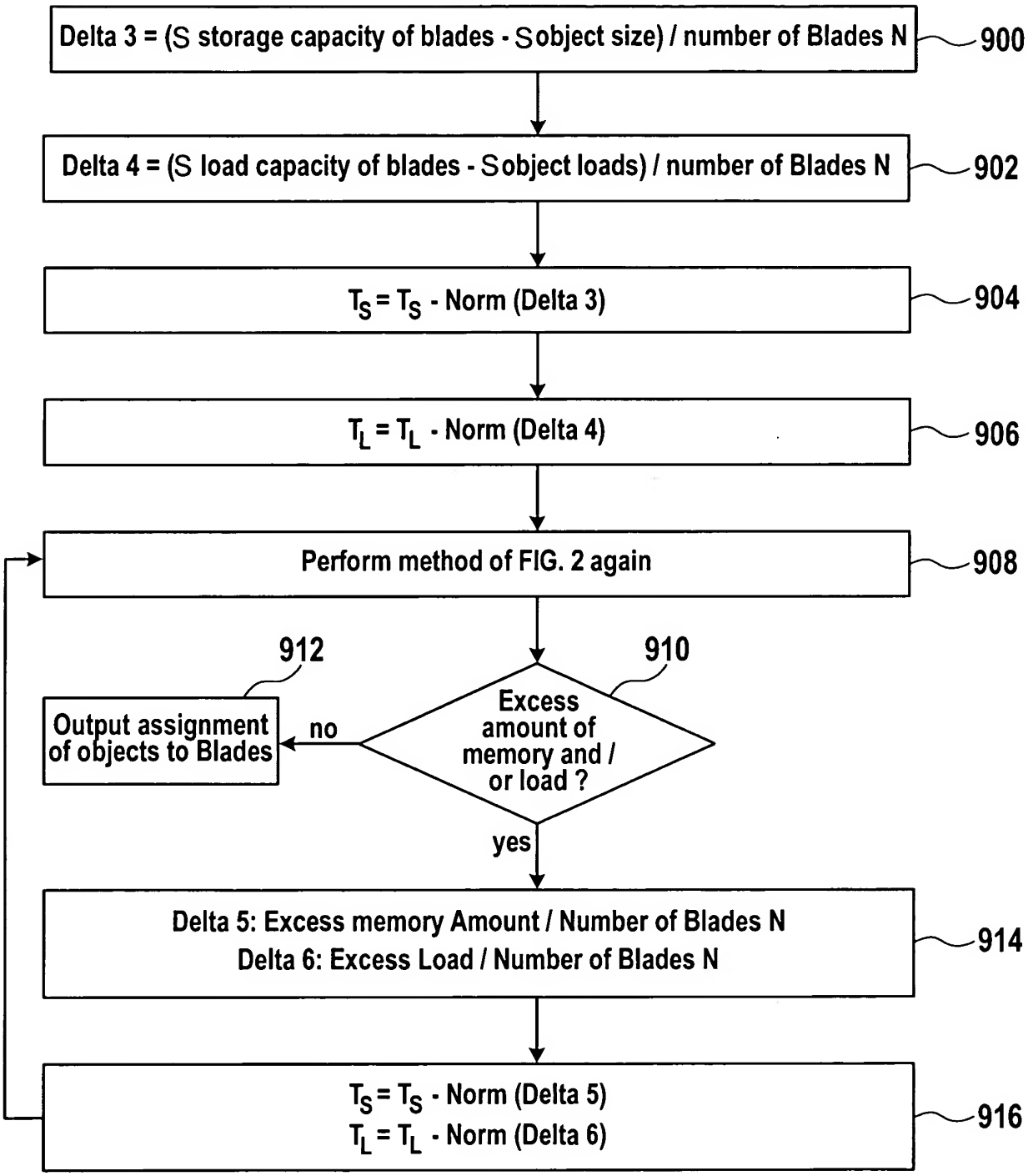

Delta 3 = (S storage capacity of blades - Sobject size) / number of Blades N
900
Delta 4 = (S load capacity of blades - Sobject loads) / number of Blades N
902
$T_S = T_S$ - Norm (Delta 3)
904
$T_L = T_L$ - Norm (Delta 4)
906
Perform method of FIG. 2 again
908
912
910
Output assignment of objects to Blades
no
Excess amount of memory and / or load ?
yes
Delta 5: Excess memory Amount / Number of Blades N
Delta 6: Excess Load / Number of Blades N
914
$T_S = T_S$ - Norm (Delta 5)
$T_L = T_L$ - Norm (Delta 6)
916

FIG.19

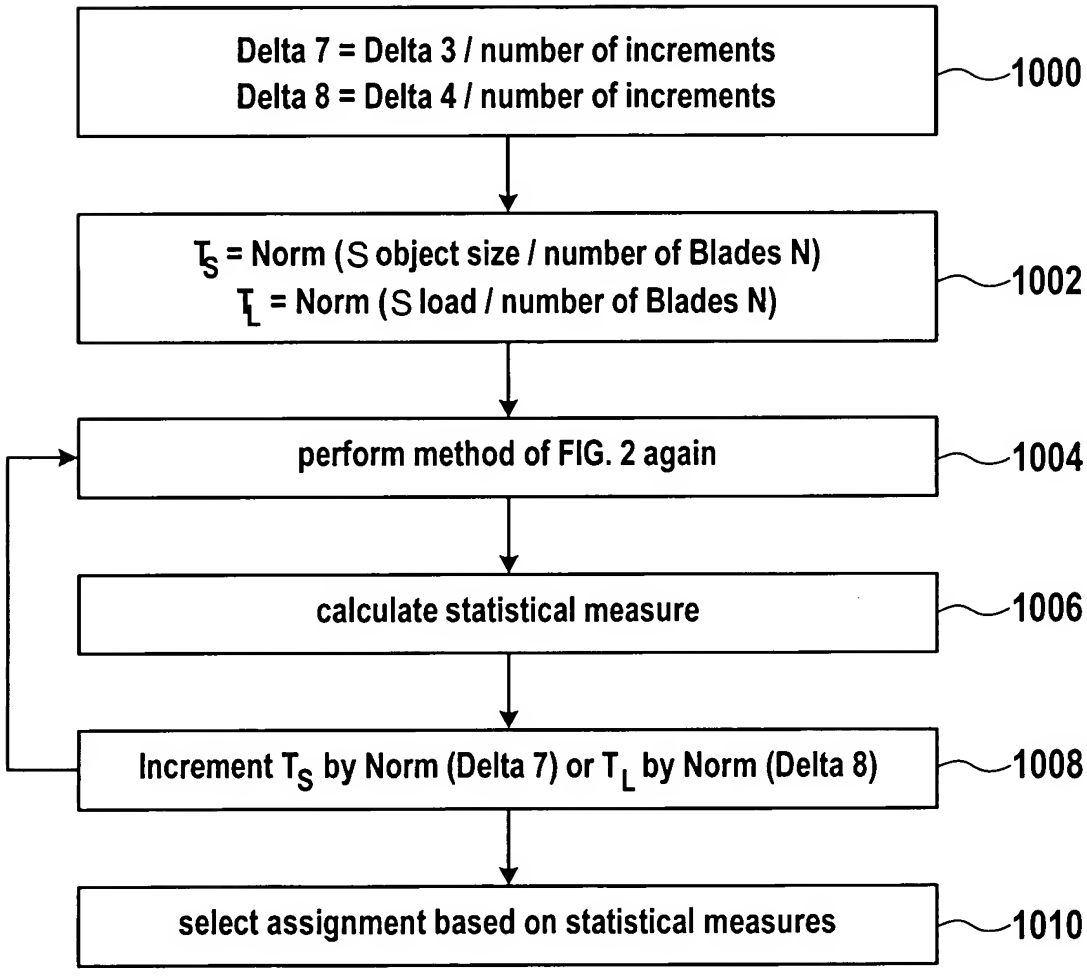

Delta 7 = Delta 3 / number of increments
Delta 8 = Delta 4 / number of increments
1000
T_S = Norm (S object size / number of Blades N)
T_L = Norm (S load / number of Blades N)
1002
perform method of FIG. 2 again
1004
calculate statistical measure
1006
Increment T_S by Norm (Delta 7) or T_L by Norm (Delta 8)
1008
select assignment based on statistical measures
1010

FIG.20

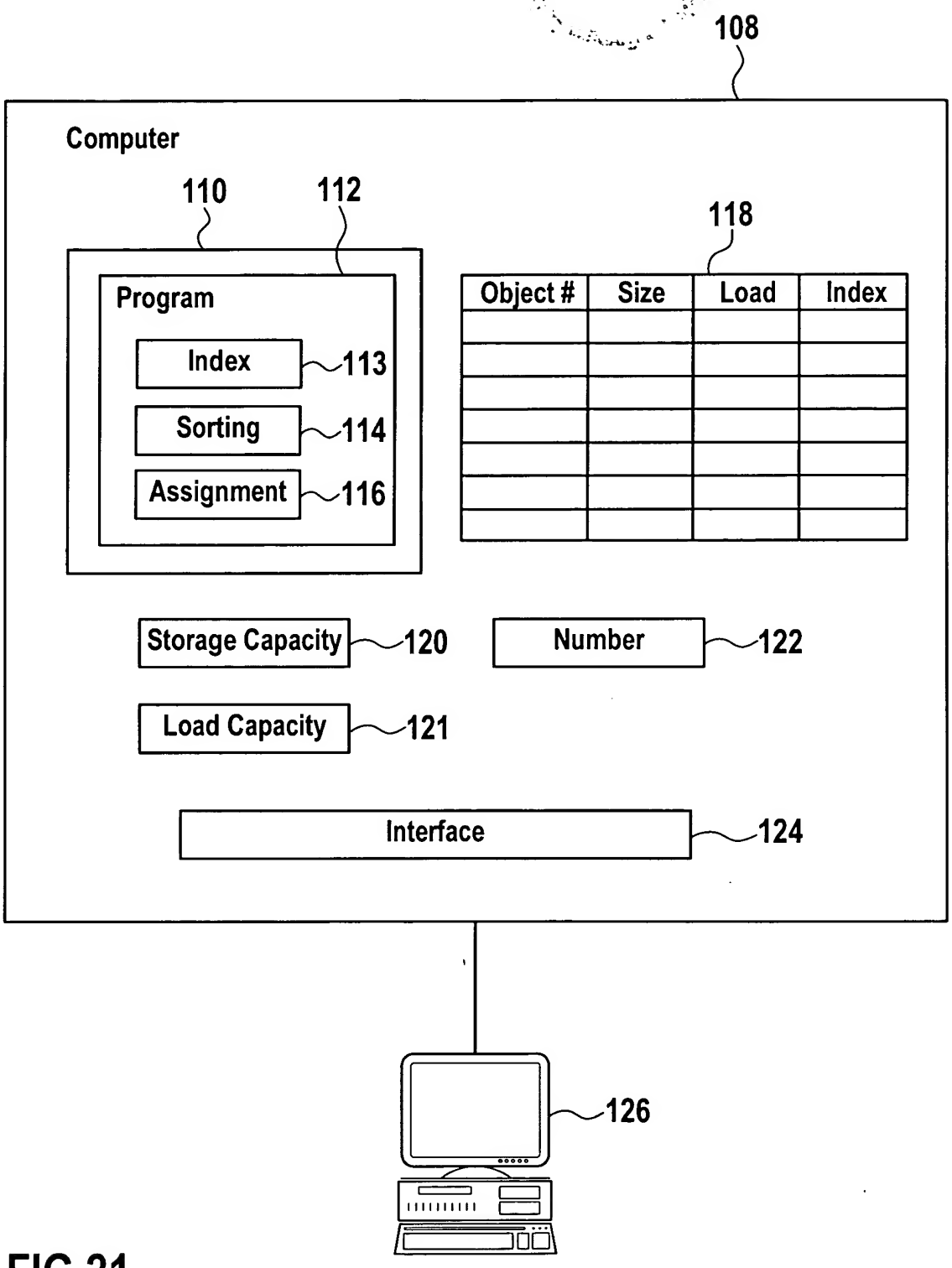

108
Computer
110
112
118
Program
Index
113
Sorting
114
Assignment
116
Object #
Size
Load
Index
Storage Capacity
120
Number
122
Load Capacity
121
Interface
124
126

FIG.21